

Research Program Specialist II (GIS)

Knowledge, Skills, Abilities, and Personal Characteristics Statements

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| 1 | Knowledge of research design methods to conduct research projects and evaluation studies. |
| 2 | Knowledge of data collection methods (e.g., survey, interviews) to ensure the proper use and validation of the research results. |
| 3 | Knowledge of appropriate sampling techniques required to produce statistically reliable and valid research results. |
| 4 | Ability to conduct a literature review using various resources (e.g., library, internet) to compile information and data from academic journals, research publications, and online sources. |
| 5 | Ability to design and develop research methodologies required to ensure the collection and analysis of appropriate, meaningful, and unbiased data. |
| 6 | Ability to conduct program evaluation studies including the systematic analysis of program requirements, goals, and outcomes to ensure program effectiveness. |
| 7 | Ability to identify required data, information, materials, and resources needed to complete a project. |
| 8 | Ability to present complex quantitative data visually using charts, graphs, tables, and other appropriate methods in order to complete reports and/or develop presentations. |
| 9 | Knowledge of principles and concepts of geography, cartography, geospatial processing, and computer mapping to conduct research and respond to policy questions. |
| 10 | Knowledge of the principles and procedures of geospatial data collection, management, and analysis to conduct research and respond to policy questions. |
| 11 | Ability to use the principles and procedures of geospatial data collection, management, and analysis to conduct research and respond to policy questions. |
| 12 | Knowledge of advanced automated processes for capturing data and applying quality control procedures to design and implement research projects. |
| 13 | Ability to design and implement advanced automated processes for capturing data and applying quality control procedures to design and implement research projects. |
| 14 | Ability to identify spatial data needs for complex analyses and to assess the adequacy of existing data to meet these needs. |
| 15 | Ability to verify, validate, and assess the accuracy of geospatial data to meet project needs. |
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| 17 | Ability to utilize web-based Geographic Information Systems (GIS) to display geospatial data and analytical results. |
| 18 | Ability to design geospatial databases for standardization and usability. |
| 19 | Ability to present complex quantitative and geospatial data visually using maps in order to complete reports and/or develop presentations and posters. |
| 20 | Knowledge of spatial analysis techniques (e.g., overlay, network analysis, cost surfaces, 3D modeling) to address important policy, program evaluation, and other research questions. |
| 21 | Knowledge of programming languages (e.g., Python, Java, C++) and conceptual design tools (e.g., ModelBuilder, Visio) commonly used for automating spatial processes and model development. |
| 22 | Knowledge of remote sensing technology (e.g., Lidar, aerial photography, satellite imagery) to capture appropriate geospatial data to perform analyses and support research. |
| 23 | Knowledge of basic arithmetic techniques (e.g., addition, subtraction, multiplication, division) to analyze numerical data. |
| 24 | Ability to perform basic arithmetic techniques (e.g., addition, subtraction, multiplication, division) to analyze numerical data. |
| 25 | Knowledge of descriptive statistical analysis techniques (e.g., mean, median, mode) to formulate conclusions and recommendations. |
| 26 | Ability to use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to research problems. |
| 27 | Knowledge of problem-solving techniques and processes to facilitate the identification and resolution of issues related to the completion of work assignments. |
| 28 | Ability to determine how a system or process works and how changes in inputs, operations, and environmental conditions would affect outcomes. |
| 29 | Ability to use sound research methods and principles to reach conclusions and/or make recommendations. |
| 30 | Ability to analyze statistical data to reach sound conclusions and/or make recommendations. |
| 31 | Ability to interpret data obtained through formal data gathering techniques (e.g., surveys, questionnaires, and interviews). |
| 32 | Ability to verify the validity and accuracy of data collected. |
| 33 | Ability to proofread and edit written materials (e.g. memos, letters, reports, procedures) to ensure that they are accurate and clear. |
| 34 | Ability to read and comprehend complex or technical information in order to interpret or explain it to others. |
| 35 | Knowledge of proper spelling, grammar, punctuation, and sentence structure to ensure that written materials are complete, concise, and error-free. |
| 36 | Ability to communicate information clearly and concisely, in writing, to audiences with varying levels of understanding. |

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| 37 | Ability to write reports, policies, and procedures using proper grammar, punctuation, and sentence structure. |
| 38 | Ability to visually present flow charts to convey process representations using various tools and methods (e.g., Visio, Word). |
| 39 | Knowledge of time management techniques to provide for efficient prioritization and completion of projects and assignments. |
| 40 | Ability to be objective and flexible to adapt to changes in priorities and work assignments to ensure projects are completed on time and within budget. |
| 41 | Ability to work on multiple projects and assignments simultaneously to finish assignments on time and within budget. |
| 42 | Ability to complete work under critical timelines to meet project objectives and deadlines. |
| 43 | Ability to develop and prioritize short-range and long-range plans and schedules that coordinate with operating goals and objectives of the department. |
| 44 | Ability to work independently to complete projects in a timely manner. |
| 45 | Ability to work as a member of a team to complete projects in a timely manner. |
| 46 | Ability to verbally communicate with others to convey information effectively. |
| 47 | Ability to develop and maintain cooperative relationships with other entities (e.g., governmental agencies, advocates, the public) to promote an environment that is conducive to carrying out research. |
| 48 | Ability to communicate with internal and external stakeholders with diplomacy and tact, especially concerning difficult and sensitive issues. |
| 49 | Ability to facilitate meetings and discussions in a manner that ensures participants remain focused on the intended topic and encourages active participation. |
| 50 | Ability to orally present research findings and/or other technical materials at the appropriate level of complexity for audiences of varying levels of understanding. |
| 51 | Ability to provide clear and accurate verbal instructions and directions to individuals with various levels of technical expertise. |
| 52 | Ability to access and process data located on databases, servers, the cloud, and/or desktop PCs. |
| 53 | Knowledge of geospatial software (e.g., ArcGIS, InterGraph, ArcPad, ERDAS, Google Earth) to capture, analyze and display spatial data. |
| 54 | Ability to use geospatial software (e.g., ArcGIS, InterGraph, ArcPad, ERDAS, Google Earth) to capture, analyze and display spatial data. |
| 55 | Knowledge of geospatial hardware devices (e.g., Global Positioning System, mobile Geographic Information Systems, plotters, range finders, base stations) to capture, analyze and display spatial data. |

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| 56 | Ability to use geospatial hardware devices (e.g., Global Positioning System, mobile Geographic Information Systems, plotters, range finders, base stations) to capture, analyze and display spatial data. |
| 57 | Ability to use word processing software (e.g., Microsoft Word) to prepare correspondence and reports. |
| 58 | Ability to use spreadsheet software (e.g., Microsoft Excel) to prepare spreadsheet summaries and reports. |
| 59 | Ability to use database software (e.g., Access, Structured Query Language [SQL] Server, Oracle) to store and manage data. |
| 60 | Knowledge of various data software programs (e.g., SAS, SPSS, Access, Excel) to aid in statistical analysis of data. |
| 61 | Ability to use electronic mail and calendaring software (e.g., Microsoft Outlook, GroupWise) for e-mail and calendaring purposes. |
| 62 | Ability to function as a technical lead for complex projects to ensure their timely completion. |
| 63 | Ability to provide mentoring to staff to improve performance and productivity. |
| 64 | Ability to recognize when issues, activities, and/or decisions need to be elevated to management. |
| 65 | Ability to appropriately delegate work to project team members to ensure work projects are completed on time and within budget. |
| 66 | Ability to monitor work of project team members to ensure that it meets quality, quantity, and timeliness standards. |
| 67 | Ability to apply project management principles in order to design projects (e.g., define schedules, tasks, milestones, deliverables), monitor project progress, and conduct final project evaluation. |
| 68 | Ability to maintain high ethical standards in completing all assignments and projects. |